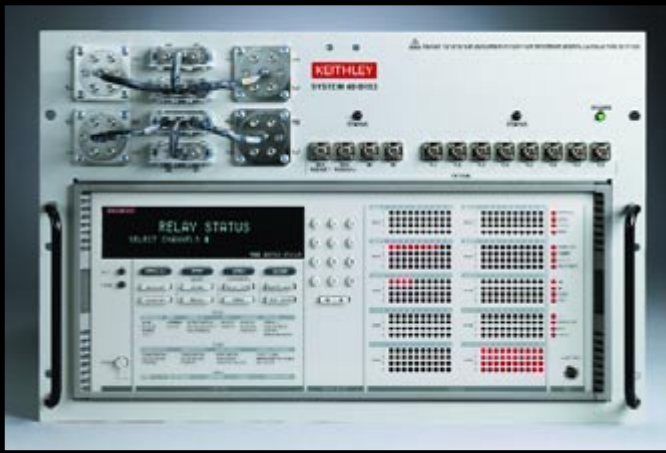


# System 40

# Custom RF/Microwave Signal Routing Systems



- Custom designed and built for specific applications
- Pre-programmed, turnkey solutions
- Hybrid signal routing including optical and low frequency switching
- Employs standard Keithley control units
- Unique front panel enables interactive control as well as real-time status display
- DC-40GHz solutions

## Ordering Information

Contact a Keithley representative for design assistance and pricing.

### APPLICATIONS

- Cellular and cordless phones
- Specialized mobile radios
- Base stations
- Specialized antenna systems
- RF components, including RFICs
- Wireless peripherals, including Bluetooth devices
- Broadband wireless transceivers
- High speed digital communications, including SONET speeds 3Gbps and 10Gbps

## RF/Microwave Signal Routing Systems Designed to Exacting Specifications

Testing communications devices and systems requires a broad range of possible signal routing configurations, so it can be difficult for test engineers to create the exact configurations they need using standard products. That's why Keithley offers System 40 RF/Microwave Signal Routing Systems, which are designed and built to customer specifications. Applications for the System 40 include testing a broad range of telecommunications products, including cellular and cordless phones, pagers, specialized mobile radios, and base stations for these products. These systems are also suitable for digital ICs, including SONET speeds, medical wireless products, specialized antenna systems, and RF components.

## Turnkey Packages

Keithley can assemble a customized turnkey signal routing system, complete with a standard Keithley controller, system power supply, all power and control cables, rack mount assembly, low-loss microwave cables, and a wide variety of microwave components. For example, systems can be assembled with microwave relays, programmable attenuators, couplers, isolators, amplifiers, power dividers/combiners, etc.

## Hybrid Signal Routing Systems

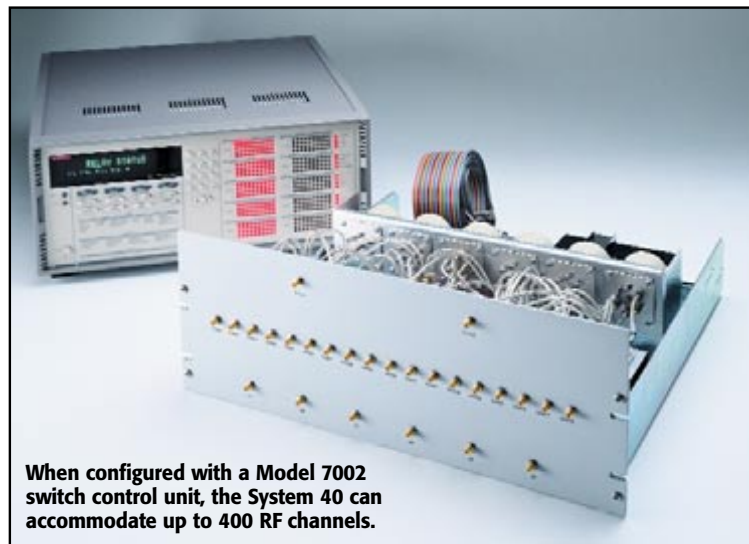
In addition to microwave signals, the System 40 can be configured with optical switching and low frequency signal routing, including audio, power, and digital control. Keithley has over 30 switch cards that can be used by the 7000 Series control units.

## Integrated Signal Conditioning

Each System 40 is custom designed, so it's simple to integrate active and passive signal conditioning components, such as attenuators, mixers, and couplers, into the final product. The integrated package reduces cabling and minimizes system losses.

## Superior RF/Microwave Performance

The System 40 integrates relays and other components from the leading suppliers in the industry, enabling us to offer the lowest insertion loss, VSWR, and isolation performance specifications available. All internal connections between the components are implemented using low-loss, semi-flex, or semi-rigid RF cables for high signal integrity.



When configured with a Model 7002 switch control unit, the System 40 can accommodate up to 400 RF channels.

1.888.KEITHLEY (U.S. only)

[www.keithley.com](http://www.keithley.com)

KEITHLEY

A GREATER MEASURE OF CONFIDENCE

Customized hybrid solutions for signal routing

RF/MICROWAVE SWITCH & MEASURE

# System 40

## Custom RF/Microwave Signal Routing Systems

### Industry-Leading, Off-the-Shelf IEEE-488 Controllers

The System 40 uses either one of Keithley's Model 7001 or 7002 control units. The IEEE-488-compatible controller operates the programmable RF/microwave components and provides an easy-to-read, real-time display of component status. The System 40 is pre-programmed at the factory, storing your test routines in the control unit's non-volatile memory. This minimizes the number of IEEE-488 commands necessary to operate the system, which saves programming time. If desired, the system can be reconfigured by reprogramming the controller for new applications.

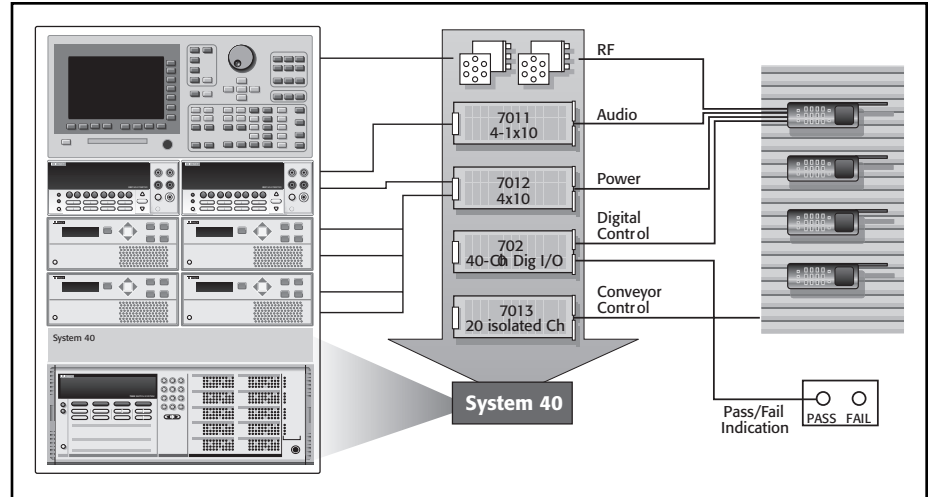
### Get Up and Running Quickly

To begin using the System 40, simply install it in a rack and connect the input and output lines. All RF input/output connections are easily accessible, making system set-up and maintenance fast and uncomplicated.

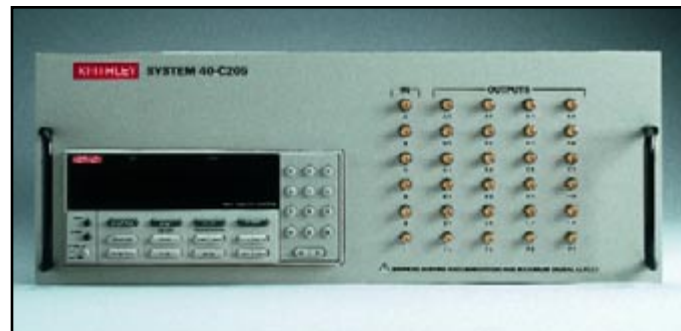
The control unit's front panel display provides continuous, real-time information on the status of all controlled components. This makes it possible to operate the system manually, not just automatically, speeding and simplifying test verification and troubleshooting. Both start-up time and downtime are minimized, which helps maximize production time. In addition, the use of a standard control unit allows for fast and easy implementation of changes through software, not hardware.

### Keithley Design Assistance

Keithley's Applications Engineering team provides system design assistance and can propose component layout alternatives to ensure optimum system performance. Most custom systems can be designed, assembled, and available for use within 6 to 10 weeks after ordering.



Typical Telecommunications Application—Hybrid Microwave/Analog/Digital Signal Routing System



System 40 with front panel bulkhead connectors



System 40 integrated with switches, attenuators, power dividers, and isolators